

The People's Republic of China

EDICT OF GOVERNMENT

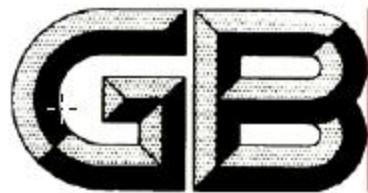
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GB 1796-1 (2008) (English): Tyre valves,
Part 1: Clamp-in valves



ICS 83.160.01

G 41



National Standard of the People's Republic of China

GB1796.1 – 200X
Replaces part of GB 1796-1996

Tyre valves Part 1: Clamp-in valves

(ISO 9413: 1998, Tyre valves – Dimensions and designation, NEQ)

Draft for approval

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**General Administration of Quality Supervision, Inspection and Quarantine
of the People's Republic of China**

Standardisation Administration of the People's Republic of China (SAC)

Issue

Foreword

Clause 9 of this Part is mandatory while the rest are recommended.

GB 1796, “Tyre Valves” is divided into six parts:

- Part 1: Clamp-in valves;
- Part 2: Rubber base valves;
- Part 3: Snap-in valves;
- Part 4: Clamp-in tubeless valves;
- Part 5: Large core chamber valves;
- Part 6: Cores.

This is Part 1 of GB 1796, corresponding to ISO 9413: 1998, “Tyre valves – Dimensions and designation”, (English version). The consistency degree of this part and ISO 9413: 1998 is non-equivalent.

This Part replaces the “clamp-in valves” Part found in GB 1796– 1996 “Tyre valve”.

This part compares to GB 1796-1996, the main changes are:

- “terms and definitions” have been added (see Clause 3);
- model AA01, AA01C, AB01, AB03C, AB04C and CB11C valves and their corresponding contents in Table 1 have been added;
- model I02, I01C, I04C protective-cap have been added;
- certain dimension tolerances have been amended (former edition Clause 5, current edition Clause 6);
- certain valve specifications have been added (former edition Clause 4, current edition Clause 5);
- certain valve components specifications have been added (former edition Clause 5, current edition Clause 6);
- model QD5 spacer and model C protective-cap have been withdrawn (former edition Clause 5, current edition Clause 6);
- tooth profile, limit size and tolerance specification for model 5CV and 8CV threads have been added (see 6.7);
- maximum usable pressure for valves has been amended (former edition 6.3, current edition Clause 8);
- installation torque of hexagon nuts has been added (see Clause 10);
- air-tightness of the seal-cap has increased (see Clause 11);
- “test methods” have been amended (former edition 6.4, current edition Clause 12);
- test regulations have been amended (former edition Clause 7, current edition Clause 9);
- Appendix A has been amended (former edition Appendix A, current edition Appendix A).

Appendix A to this Part is information data.

This part is proposed by China Petroleum and Chemical Industry Association (CPCIA).

National Technical Committee for Standardisation of Tyres and Rims implemented this Part under centralised management.

Main drafting units of this Part:
Shandong Gaotian Hardware Manufacturing Limited;
Jiangyin Chuangxin Tyre Valve Co., Ltd

Participating drafting units of this Part:
Tianjin Bicycle Factory No 2 Branch No 2
Ningbo Jinzhou Shuguang Mechatronics Co., Ltd
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Main drafters of this Part: LiFeng, LuXiaoYong, LiuHaiYan, ZhangHaoBo, LiZhanGang.

This Part replaces certain Parts of the previously issued standards:
-GB 1796-1979, GB 1796 – 1988, GB 1796 – 1996.

Tyre Valves

Part 1: Clamp-in valves

1 Scope

This Part of GB 1796 specifies the terms and definitions, models and symbols, structural forms, component type, structural sizes and materials, appearance, maximum usable pressure, air-tightness, the installation torque of hexagon nuts and valve end, the air-tightness of seal-cap, test methods, test regulations, labelling, packaging and storage requirements for clamp-in valves (hereinafter abbreviated as valves).

This Part applies to valves for motorcycles and cycles.

2 Normative References

The provisions of the following documents become provisions of this Standard after being referenced with the quotation GB 1796 Part 1. For dated reference documents, all later amendments (excluding corrigenda) and versions do not apply to this Part; however, the parties to the agreement are encouraged to study whether the latest versions of these documents are applicable. For undated reference documents, the latest versions apply to this Standard.

GB 1796.6 Tyre valves, Part 6: cores (GB1796.6-xxxx, ISO9413: 1998, Tyre valves - Dimensions and designation, NEQ)

GB/T 2828.1-2003 Sampling procedures for inspection by attributes--part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection (ISO 2859-1: 1999; IDT)

GB 9764 Tyre valves – Core chambers (GB 9764 – 1997, neq ISO 6762: 1982; ISO 7442:1982)

GB 9765 Tyre valve threads (GB 9765 – 1997, neq ISO 4570-1: 1977, ISO 4570 – 2:1979, ISO 4570 – 3: 1980)

GB/T 9766.1 Test method for tyre valve, part 1: Test method for clamp-in valves

GB/T 12839 Tyre valves - Terms and definitions (GB/T 12839 – 2005. ISO 3877 – 2: 1997, Tyres, Valves and tubes – list of equivalent terms – part 2: Tyre Valves, NEQ)

GB/T XXXX Labelling method for tyre valves and their components (GB/T XXXX – XXXX, ISO 10475: 1992, Valves for tubeless tyres and valves for tubes – Identification system for valves and their components, MOD)

3 Terms and definitions

The terms and definitions set out in GB/T 12839 apply to this Part.

4 Models and symbols

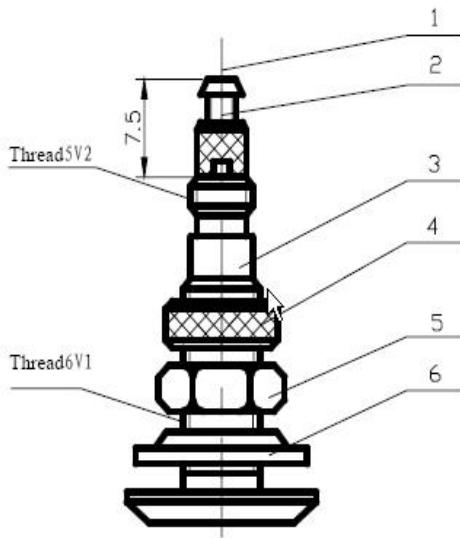
The models and symbols of the products should conform to the regulations set out in GB/T XXXX. The model in this Part meets the foreign standard model; see Appendix A also.

5 Structural form

The structural form of the valves should conform to the requirements shown in Table 1 and Diagrams 1 - 4.

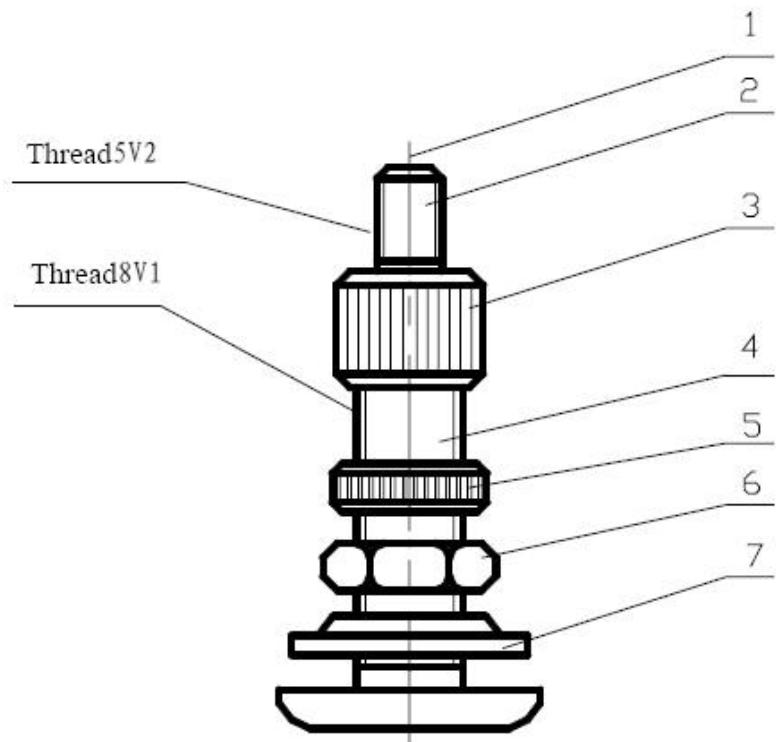
Table 1

Model	Diagram	Components				Suitable valve hole diameter mm	Reference Application	
		Spacer	Nut	Protective-Cap	Core			
AA01	Diagram 1	D06	E12, F03	I07	H03C	• 6.2	Cycles	
AA01C								
AB01	Diagram 2	D01	E01, F03, F04C	I07	H04C	• 8.3	Motorcycles or Cycles	
AB03C								
AB04C	Diagram 3	D15C or D16C	E01C, F02C, F03C	I03C	H04C or H05C			
CB03					H01			
CB07C	Diagram 4	D01 or D02C	E01, F01 or F01C	I01 or I02 or I01C or I02C or I04C	H01S			
CB09C								
CB10C					H01			
CB11C								



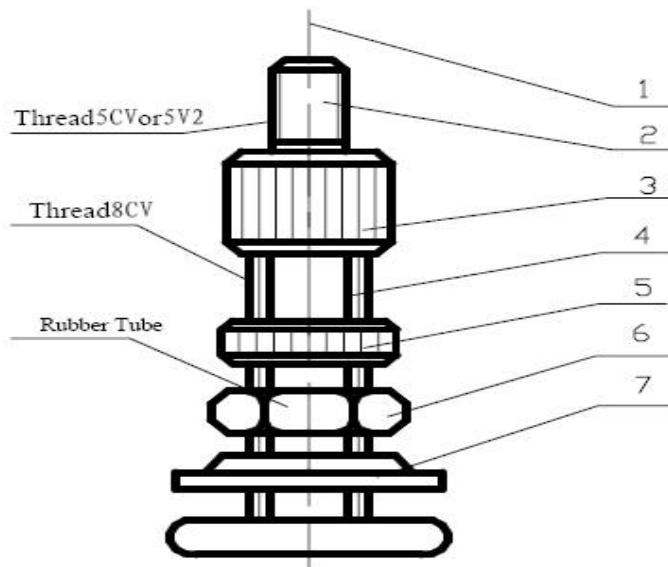
1-I07 Protective-Cap; 2-H03C Valve Core; 3-Valve; 4-F03 Rim Nut;
5-E12 Hexagon Nut 6-D06 Spacer

Diagram 1 AA01, AA01C Valve



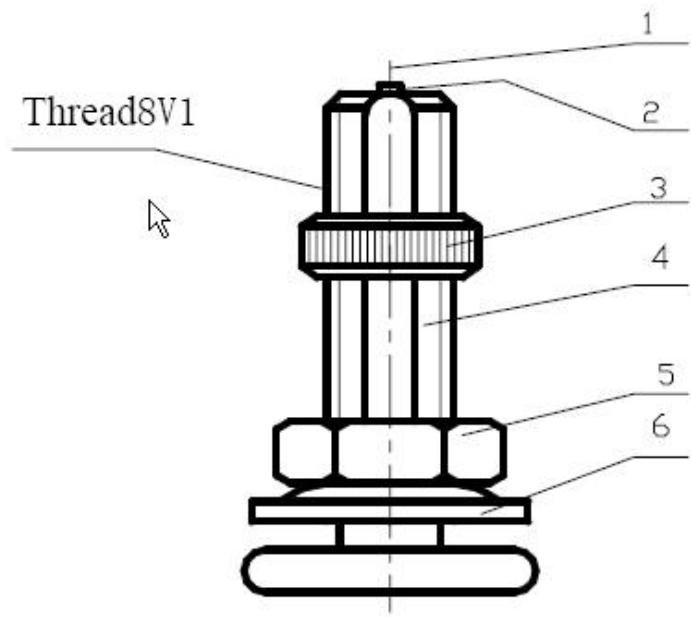
1- I07 or I03C Protective-Cap; 2- H04C Valve Core; 3-F04C Core Hold-down Nut;
 4- Valve; 5- F01 Rim Nut; 6- E01 Hexagon Nut; 7- D01 Spacer;

Diagram 2 AB01 Valve



1-I03C or I07 Protective-Cap; 2-H04C or H05C Valve Core; 3-F03C Core Hold-down Nut; 4-Valve; 5-F02C Rim Nut; 6-E01C Hexagon Nut; 7-D15C or D16C Spacer

Diagram 3 AB03C, AB04C Valve



1- I01 or I02 or I01C or I02C or I04C Protective-Cap; 2- H01 Valve Core; 3-F01 or F01C Rim Nut;
 4- Valve; 5- E01 Hexagon Nut; 6- D01 or D02C Spacer;

Diagram 4 CB03, CB07C, CB09C, CB10C, CB11C Valves

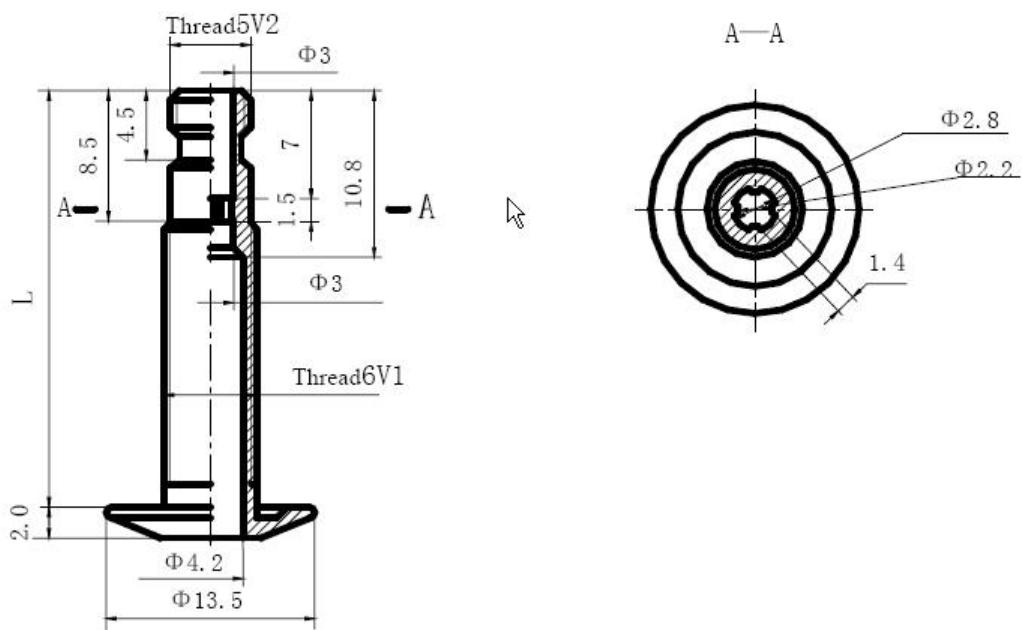
6 Models, structural dimensions and materials of components

6.1 Valve

The models, structural dimensions and materials of the valves should meet the requirements set out in Table 2 and Diagram 5 - Diagram 8.

Table 2

Model	Diagram	Core Chamber Model	Materials
AA01, AA01C	Diagram 5	-	Brass or other metal materials
AB01	Diagram 6	-	
AB03C, AB04C	Diagram 7	-	
CB07C	Diagram 8	1B	
CB03, CB09C, CB10C, CB11C		1A	



Model	L
AA01	27
AA01C	30

Diagram 5 AA01, AA01C Valve

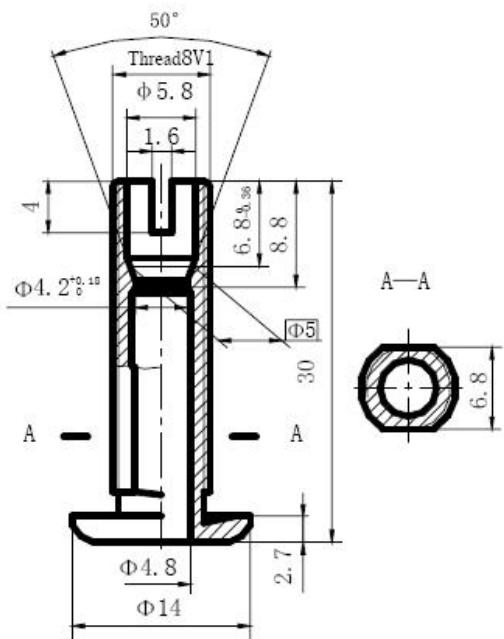


Diagram 6 AB01 Valve

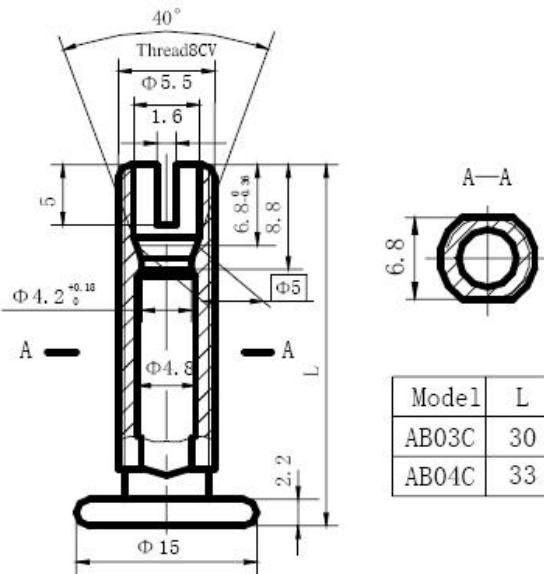


Diagram 7 AB03C, AB04C Valve

Model	L	d	H
CB07C ^a	30	15	2.2
CB03	33.5	14	2.7
CB09C	34	18	2.5
CB10C	46		2.2
CB11C	40		

^a Suitable for H01S valve cores only.

Diagram 8 CB07C, CB03, CB09C ~ CB11C Valves

6.2 Spacers

The models, structural dimensions and materials of the spacers should conform to the requirements set out in Table 3 and Diagram 9.

Table 3

Model	Material	Suitable Valves
D01	Steel or brass	AB01, CB03C, CB07C, CB09C - CB11C
D02C		CB03, CB07C, CB09C - CB11C
D06		
D15C		AB01, AB01C

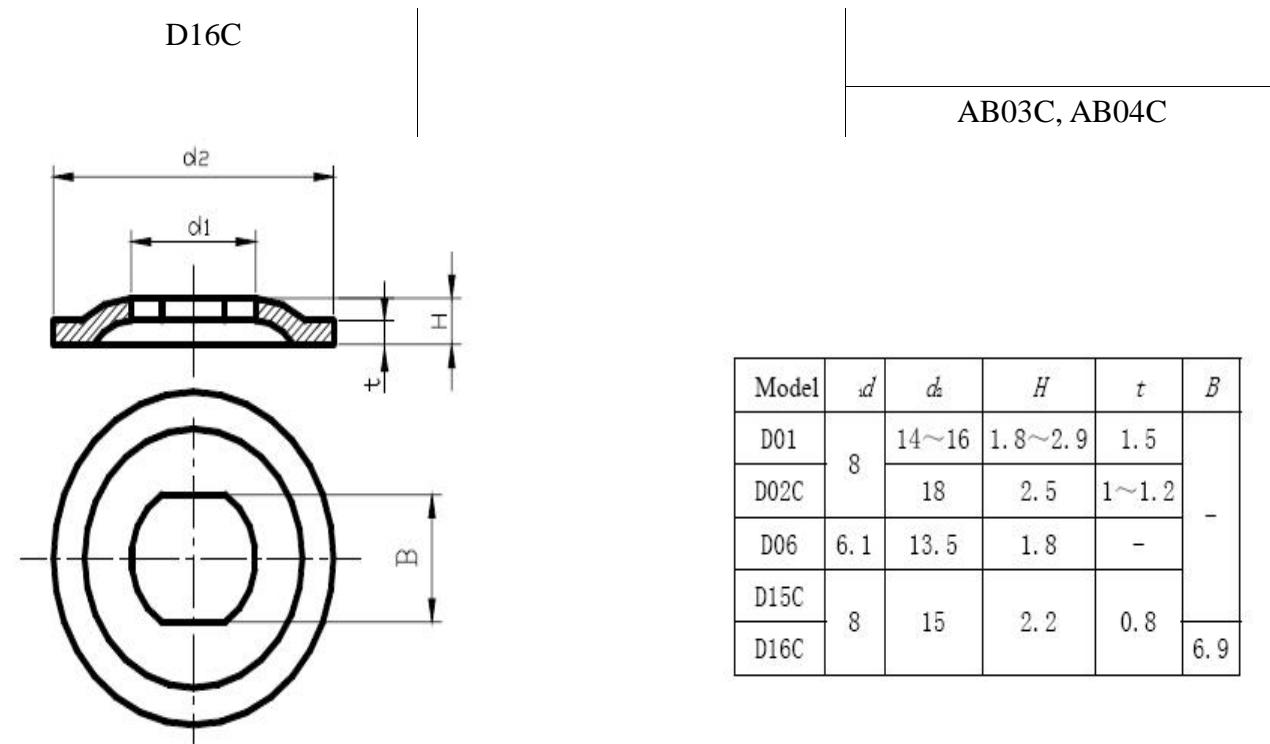


Diagram 9 D01, D02C, D06, D15C, D16C Spacers

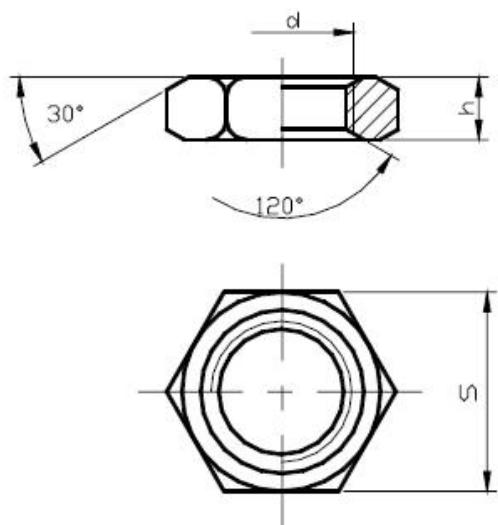
6.3 Nuts

The models, structural dimensions and materials of the nuts should conform to the requirements set out in Table 4 and Diagrams 10 - 13.

Table 4

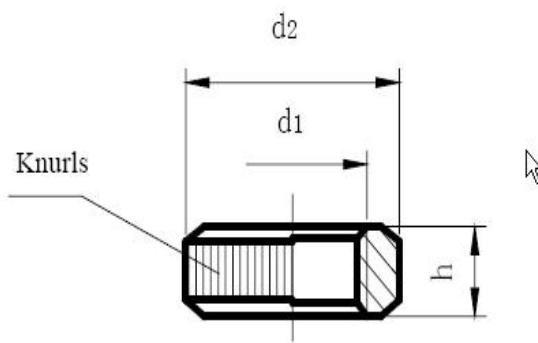
Model	Diagram	Materials	Suitable Valves
E01	Diagram 10	Brass or other metal materials	AB01, CB03, CB07C, CB09C ~ CB11C
E01C			AB03C, AB04C
E12			AA01, AA01C
F01	Diagram 11		AB01, CB03, CB07C, CB09C ~ CB11C
F01C			CR03 CR07C CR09 ~
F02C			

F03		
F03C	Diagram 12	AB03C, AB04C
F04C	Diagram 13	AA01, AA01C
		AB03C, AB04C
		AB01



Model	<i>d</i>	<i>s</i>	<i>h</i>
E01	8V1	10	2.5
		10	3.5
		12	4
		12.7	4
E12	6V1	9	2.5
E01C	8CV	10	3.5

Diagram 10 E01, E12, E01C Hexagon Nuts



Model	d_1	d_2	h
F01	8V1	10	3
F01C	8V1	11.5	4
F03	6V1	10	3
F02C	8CV	10	3

Diagram11 F01, F01C, F03, F02C Rim Nut

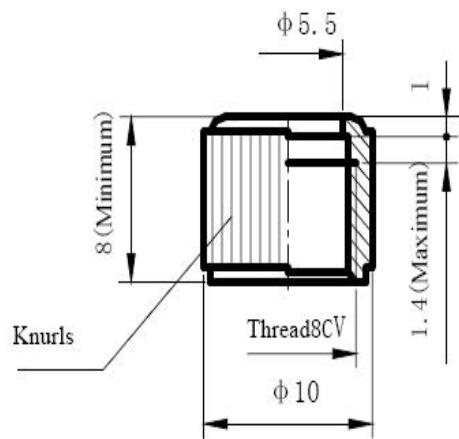


Diagram12 F03C Core Hold-Down Nut

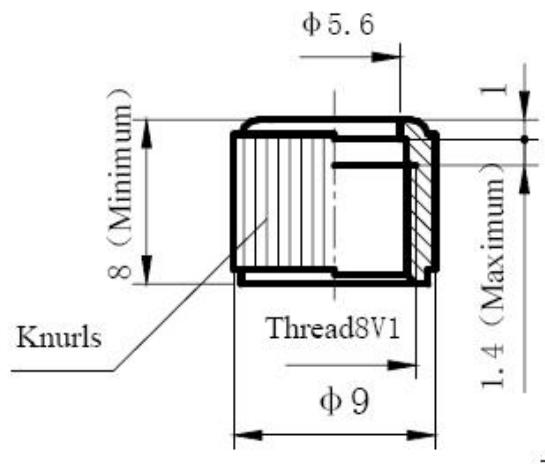


Diagram 13 F04C Core Hold-down Nut

6.4 Protective-Cap

The models, structural dimensions and materials of the protective cap should conform to the requirements set out in Table 5 and Diagrams14 - 20.

Table 5

Model	Diagram	Material
I07	Diagram 14	Plastic

I03C	Diagram 15	
I01	Diagram 16	Brass, Rubber
I02	Diagram 17	
I01C	Diagram 18	
I02C	Diagram 19	Plastic
I04C	Diagram 20	

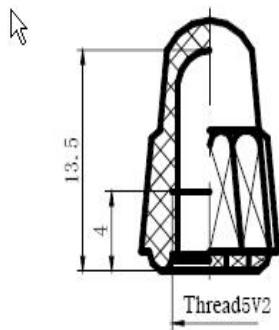


Diagram14 107 Cap

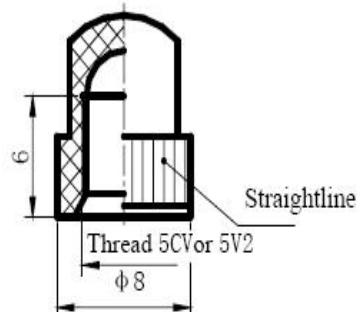


Diagram15 103C Cap

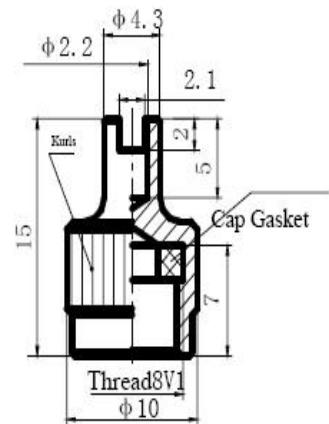


Diagram16 101 Cap

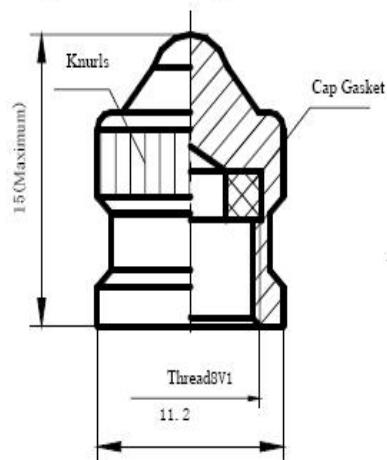


Diagram17 102 Cap

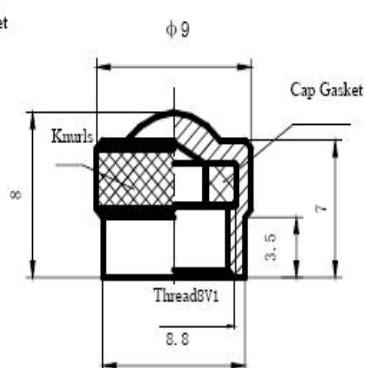


Diagram18 101C Cap

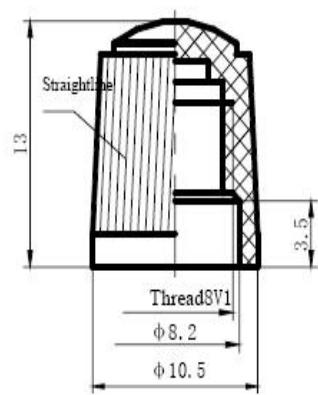


Diagram19 102C Cap

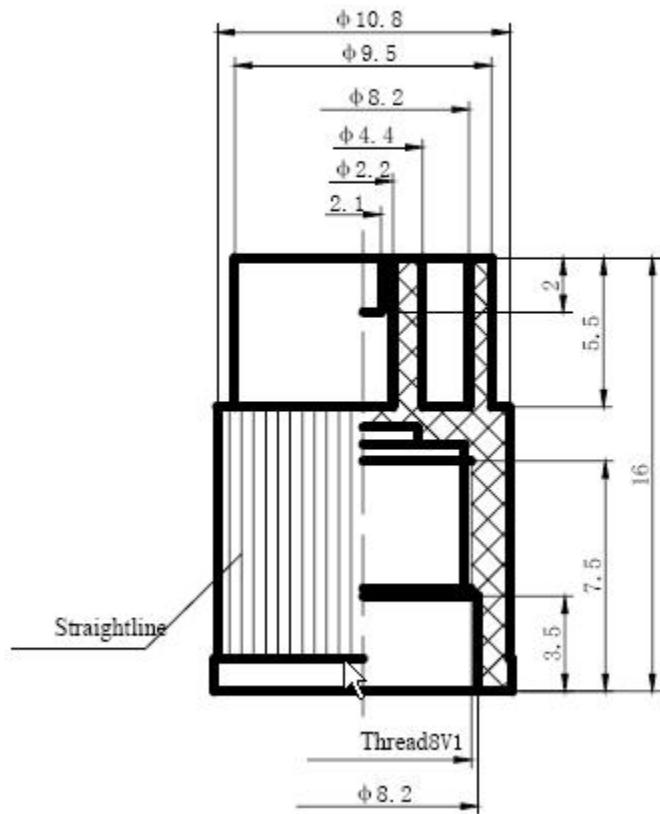


Diagram 20 I04 Cap

6.5 Valve Core

The valve core should meet the requirements set out in GB1796.6.

6.6 Core Chamber

The core chamber should meet the requirements set out in GB9764.

6.7 Threads

See diagram 21 to check the tooth-profile, limit size and tolerance of the thread models 5CV and 8CV. The tooth-profile, limit size and tolerance of the model 5V2, 6V1 and 8V1 threads should meet the requirements set out in GB9765; the limit size and tolerance of threads 5V2, 5CV and 8V1 are not suitable for model I07, I03C, I02C and I04 protective-caps.

7 Appearance

The surface of the metal components of every model valve cores should be treated with antiseptic; there should be no faults that may affect usable performance such as greasy dirt, rust-corrosion or cracks.

8 Maximum usable pressure

See Table 6 to check the maximum usable pressure for the valves.

Table 6

Valve Models	Maximum Usable Pressure KPa
AA01, AA01C	900
CB03, CB07C, CB09C ~ CB11C, AB01, AB03C, AB04C	700

9 Air-tightness

Under the maximum specified usable pressure, the air-tightness of the whole valve should be ensured.

10 The installation torque of the hexagon nuts and valve

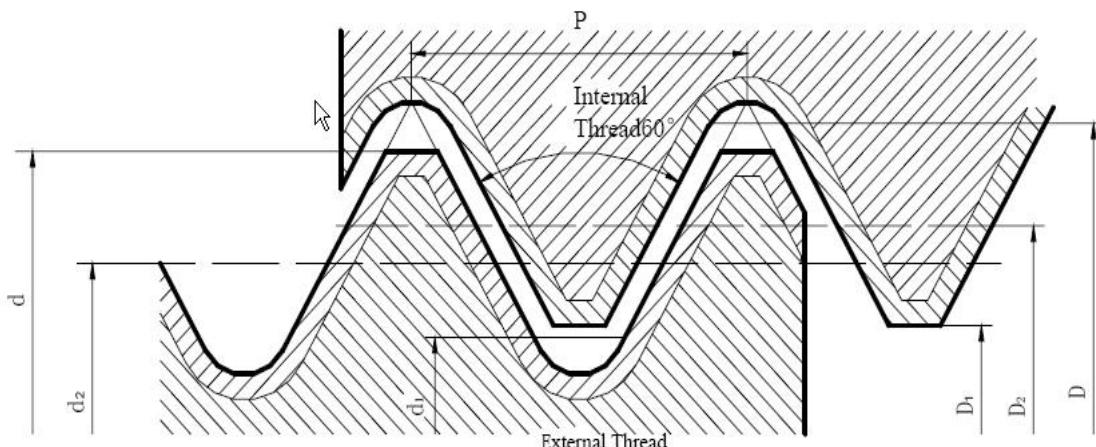
The installation torque of model 6V1 nut is: 2N.m - 3.5N.m; the installation torque of model 8V1, 8CV nuts is: 3N.m - 5N.m.

11 Air-tightness of the seal-cap

The maximum seal pressure of model I01, I02 and I01C seal-caps should not be less than 700KPa.

12 Test Methods

12.1 For the appearance test perform a visual examination.



P-Thread Pitch; d-External Thread – Major Diameter;
d1-External Thread – Minor Diameter; d2-External Thread – Pitch Diameter;
D-Internal Thread – Major Diameter; D1-Internal Thread – Minor Diameter;
D2-Internal Thread – Pitch Diameter

Thread Code	Nominal Size (d x p)	External Thread						
		Major Diameter d			Pitch Diameter d2			Minor Diameter d1
		Maximum	Nominal Td	Minimum	Maximum	Nominal Td2	Minimum	Maximum
5CV	5.1x1.058	5.05	0.28	4.77	4.36	0.14	4.22	3.75
8CV	8.1x0.847	7.96	0.23	7.73	7.41	0.13	7.28	6.92

Thread Code	Nominal Size (d x p)	Internal Thread						
		Minor Diameter D1			Pitch Diameter D2			Major Diameter D
		Maximum	Nominal TD1	Minimum	Maximum	Nominal TD2	Minimum	Minimum
5CV	5.1x1.058	4.21	0.26	3.95	4.59	0.18	4.41	5.20
8CV	8.1x0.847	7.34	0.16	7.18	7.72	0.17	7.55	8.1

Diagram 21 Tooth-profile, limit size and tolerance for 5CV and 8CV threads

12.2 Throat diameter and cone position

Use a special gauge or general gauge to measure the throat diameter and cone position.

12.3 Pitch diameter and major diameter of external thread; pitch diameter and minor diameter of internal thread, and internal thread depth dimension

Use a thread go-gauge to measure pitch diameter of external thread, pitch diameter of internal thread and internal thread depth. Use a smooth go-gauge, smooth no-go-gauge or general gauge to measure the major diameter of external thread and minor diameter of internal thread.

12.4 Other test methods

Other test methods should be carried out according to the requirements set out in GB/T9766.1.

13 Test Regulations

13.1 The sampling procedures and its implementation of the valve should be according to the regulations in GB/T 2828.1 – 2003.

13.1.1 Each storage batch or dispatch batch of the same model valves should be regarded as one inspection batch.

13.1.2 According to the importance of the quality characteristics, divide the valves which fail to meet the requirements into defective valve class A, class B or class C. These groups are then further classified into several inspection groups as shown in Table 7.

13.1.3 The Acceptance Quality Limit (AQL) (use defective item number in each one hundred products to indicate) and Inspection Level (IL) of each inspection group should meet with the requirements in table 7.

13.2 When carrying out an inspection, determine whether the valves qualify or are defective according to the inspection group division in Table 7.

13.3 The handling method after batch inspection should be carried out according to the requirements set out in GB/T 2828.1 – 2003.

Table 7

Defective Classes	Inspection Group	Inspection Items	AQL	IL	Test Method
Class A	A1	9 leak-tightness	0.40	S-3	According to GB/T9766.1
	A2		0.65		According to 12.1
Class B	B1	6.6 position and dimension of cone of valve core chamber No1	2.5	S-2	According to 12.2
				I	According to 12.3
	B2	6.6 throat diameter dimensions of valve core chamber No1		S-3	According to 12.3

	B3	6.7 the pitch diameter, minor diameter and depth dimensions of 5V1 thread of valve core chamber		
Class C	C1	6.7 the pitch diameter and major diameter of external thread of 8CV valve		
	C2	6.7 the pitch diameter and major diameter of external thread of 8V1 valve mouth		
	C3	6.7 the pitch diameter and major diameter of external thread of 6V1 valve		
	C4	6.7 The pitch diameter and minor diameter of Internal thread of 8CV hexagon nut		
Class C	C5	6.7 The pitch diameter and minor diameter of Internal thread of 6V1 nut		
	C6	6.7 The pitch diameter and minor diameter of Internal thread of 8V1 nut		
Class C	C7	6.7 The pitch	6.5	S-3

				According to GB/T9766.1
				According to GB/T9766.1
C8	6.7 The pitch diameter and minor diameter of Internal thread of rim nut			
C9	10 Installation torque of hexagon nut and valve			
C10	11 Leak-tightness of seal-cap	4.0		
C11	6.1 specified valve throat dimension of model AB01, AB03C, AB04C	6.5	S-3	According to 12.2
C12			I	According to 12.1
C13		10	II	According to 12.2

14 Labelling, packaging and storage

14.1 Labelling

There labelling on the outer packaging of the valves should indicate the:

- a) name and address of the manufacturer, trademark;
- b) product name,;
- c) product model;
- d) quantity
- e) production date

14.2 Packaging

14.2.1 Products can be either packed as sets or as individual components.

14.2.2 Use a plastic bag for the inner packaging and a cardboard or wooden box for the outer packaging.

14.2.3 A copy of the product qualification certificate should be enclosed in the inside packaging box (bag).

14.3 Storage

The products should be stored in a dry, well-ventilated, anti-corrosion and greasy-dirt free warehouse, away from high temperature and sunlight.

Appendix A

(Information appendix)
Models in this Part in comparison to overseas models

Table A.1 presents the comparison table for models of this part and overseas models

Table A.1

This Part	IS09413	TRA (2006)	ETRTO (2006)	JATMA (2007)	Diagram No.
AA01	AA01	—	V1. 01. 2	—	1
AA01C	—	—	—	—	1
AB01	AB01	—	V1. 03. 1	—	2
AB03C	—	—	—	—	3
AB04C	—	—	—	—	3
CB03	CB03	—	—	—	4
CB07C	—	—	—	—	4
CB09C	—	—	—	—	4
CB10C	—	—	—	—	4
CB11C	—	—	—	—	4
D01	D01	—	—	—	9
D02C	—	—	—	—	9
D06	D06	—	V9. 01. 1	—	9
D15C	—	—	—	—	9
D16C	—	—	—	—	9
E01	E01	—	—	BN1	10
E12	E12	—	V9. 02. 1	—	10
E01C	—	—	—	—	10
F01	F01	—	V9. 03. 2	—	11
F01C	—	—	—	—	11
F03	F03	—	V9. 03. 1	—	11
F02C	—	—	—	—	11
F03C	—	—	—	—	12
F04C	—	—	—	—	13
I07	I07	—	V9. 04. 1	—	14
I03C	—	—	—	—	15
I01	I01	VC2	V9. 04. 4	Model A	16
I02	I02	VC3	—	Model CL	17
I01C	—	—	—	—	18
I02C	—	—	—	Model A	19
I04C	—	—	—	—	20